

# ThinkPad P50 Platform Specifications

Product Specifications Reference (PSREF)

Processor	6th Generation Intel® Core™ i7 Processor or Intel Xeon® Processor E3 v5 Family							Smart card reader ExpressCard Media reader Ports	Optional: Smart card reader One slot (ExpressCard/34) 4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card Four USB 3.0 (one Always On), USB Type-C / Thunderbolt 3, Mini DisplayPort, HDMI, Ethernet (RJ-45), Dock connector	
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types			Processor Graphics
	i7-6700HQ	4	8	2.6 GHz	3.5 GHz	6MB	DDR4-2133			Intel HD Graphics 530
	i7-6820HQ			2.7 GHz	3.6 GHz	8MB				
	E3-1505M v5			2.8 GHz	3.7 GHz	8MB				Intel HD Graphics P530
E3-1535M v5	2.9 GHz			3.8 GHz	8MB					
Graphics	Intel HD Graphics 530 or P530 in processor and NVIDIA Quadro® M1000M (2GB or 4GB memory) or M2000M (4GB memory); supports external digital monitor via HDMI, Mini DisplayPort, or Thunderbolt™; supports four independent displays; Max resolution: 3840x2160 @60Hz (DisplayPort via Mini DisplayPort cable); 3840x2160 @60Hz (Thunderbolt); 3840x2160 @30Hz (HDMI)							Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight 3-button TrackPoint® pointing device and 3-button crystal silk surface multi-touch touchpad	
Chipset	Mobile Intel CM236 Chipset (Intel GL82CM236 PCH)							Security chip ThinkEngine	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 1.2 TCG Certified and Firmware TPM 2.0 integrated in chipset Delivers improved thermal and power efficiency, up to 30 day standby, faster resume time, enhanced security, as well as anti-tampering measures	
Memory	64GB max <sup>7</sup> / 2133MHz DDR4, ECC or non-ECC (ECC function supported only on Xeon processor), dual-channel capable, four DDR4 SO-DIMM sockets							vPro (optional) Fingerprint reader	Intel vPro Technology Touch style fingerprint reader on the palm rest	
Display	<i>Some:</i> 15.6" (396mm) FHD (1920x1080), anti-glare, LED backlight, IPS, 250 nits, 16:9 aspect ratio, 600:1 contrast ratio, 45% gamut, 160° viewing angle <i>Some:</i> 15.6" (396mm) 4K (3840x2160), anti-glare, LED backlight, IPS, 300 nits, 16:9 aspect ratio, 1000:1 contrast ratio, 100% gamut, 178° viewing angle							Color calibration	Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest	
Multi-touch (opt)	Capacitive-type multi-touch, supports 10-finger gesture, 220 nits							Battery Max battery life <sup>10</sup> (MobileMark® 2014)	Lithium Polymer 4-cell (66Wh) or 6-cell (90Wh)	
Pen (optional)	ThinkPad Pen Pro, active pen for multi-touch display									
Storage	<i>Up to 3 drives (two M.2 SSD and one HDD)</i> <ul style="list-style-type: none"><li>• HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Shock Mounted Hard Drive, Active Protection System™</li><li>• M.2 SSD / SATA 6.0Gb/s (e.g. xxxGB SSD M.2)</li><li>• M.2 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s (e.g. xxxGB SSD M.2 PCIe NVMe)</li></ul>									
Optical	None							AC adapter	170W slim tip AC adapter	
Ethernet	<i>Non-vPro model:</i> Intel Ethernet Connection I219-V (Jacksonville) <i>vPro model:</i> Intel Ethernet Connection I219-LM (Jacksonville)							Preload	<i>Some:</i> Genuine Windows® 7 Professional 64 <i>Some:</i> Windows 7 Professional 64 preinstalled through downgrade rights in Windows 10 Pro 64 <ul style="list-style-type: none"><li>• Lenovo Solution Center</li><li>• Lenovo SHAREit</li><li>• ThinkVantage Product Recovery</li><li>• Rescue and Recovery™</li><li>• ThinkVantage System Update</li><li>• Adobe® Reader®</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• McAfee® LiveSafe™ (30-day trial)</li></ul> <i>For ISV certifications, please visit <a href="http://www.lenovo.com/support/ISV">www.lenovo.com/support/ISV</a></i>	
WLAN <sup>4</sup>	11ac+BT, Intel Dual Band Wireless-AC 8260, 2x2, M.2 card							Limited warranty <sup>12</sup> One of the following, configurable by model: <ul style="list-style-type: none"><li>• 3-year/1-yr battery depot repair service</li><li>• 3-year/1-yr battery limited onsite service<sup>24</sup></li><li>• 3-year/1-yr battery limited onsite service, OID (Onsite International Delivery)</li></ul>	Windows 10 Pro 64 <ul style="list-style-type: none"><li>• Lenovo Solution Center</li><li>• Lenovo SHAREit</li><li>• Lenovo Companion</li><li>• Lenovo Setting</li><li>• Microsoft Office preloaded; purchase a product key to activate</li><li>• McAfee® LiveSafe™ (30-day trial)</li></ul>	
Bluetooth™	Bluetooth 4.1 wireless, integrated in Wi-Fi + Bluetooth combo adapter									
WWAN (optional)	Wireless WAN, Sierra Wireless EM7455, Qualcomm® 4G LTE-Advanced/DC-HSPA+/HSPA+/HSPA/UMTS/GNSS, M.2 card									
SIM card	Micro-SIM card slot							Mil-Spec test	MIL-STD-810G military certification	
Dimensions <sup>3</sup>	<i>WxDxH:</i> 14.86" x 9.93" x 0.96-1.16"; 377.4mm x 252.3mm x 24.5-29.4mm <i>WxDxH(Touch):</i> 14.86" x 9.93" x 1.02-1.21"; 377.4mm x 252.3mm x 25.8-30.7mm							Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; GREENGUARD®; RoHS-compliant	
Weight <sup>2</sup>	Models	4-cell		6-cell						
	Non-touch	5.6 lb / 2.55kg		5.9 lb / 2.67kg						
	Multi-touch	6.2 lb / 2.82kg		6.4 lb / 2.90kg						
Case material	<i>Display cover:</i> Glass-Fiber Reinforced Plastic; <i>Bottom:</i> Magnesium/Aluminum									